

Amendments to the Claims

1. (Currently Amended) A tracking generator for an RF measurement instrument having a controller and a receiver comprising:

means for generating a baseband signal ~~under control of~~ from baseband data from the controller;

means for modulating the baseband signal with a modulation oscillator frequency to produce a modulation signal; and

means for mixing the modulation signal with a local oscillator frequency from the receiver to produce a test signal having an output frequency that matches a measurement frequency for the receiver.

2. (Original) The tracking generator as recited in claim 1 further comprising means for offsetting the output frequency from the measurement frequency.

3. (Original) The tracking generator as recited in claim 2 wherein the offsetting means comprises means in the generating means for providing an offset in the baseband signal.

4. (Original) The tracking generator as recited in claim 2 wherein the offsetting means comprises means for adaptively filtering the baseband signal by lowpass filtering the baseband signal when a small offset in the baseband signal is desired and bandpass filtering the baseband signal in a frequency band above a Nyquist band when a larger offset in the baseband signal is desired.

5. (Original) The tracking generator as recited in claim 2 wherein the offsetting means comprises means for adjusting the local oscillator signal prior to input to the mixing means.

6. (Currently Amended) ~~The tracking generator as recited in claim 2 wherein the offsetting means comprises means for controlling a modulation oscillator frequency for the modulating means to produce an offset in the modulation signal.~~ A tracking generator for an RF measurement instrument having a controller and a receiver comprising:

means for generating a baseband signal from baseband data from the controller;

means for modulating the baseband signal with a modulation oscillator frequency to produce a modulation signal;

means for mixing the modulation signal with a local oscillator frequency from the receiver to produce a test signal having an output frequency that matches a measurement frequency for the receiver; and

means for offsetting the output frequency from the measurement frequency, the offsetting means comprising means for controlling a modulation oscillator frequency for the modulating means to produce an offset in the modulation signal.

7. (Original) The tracking generator as recited in claim 6 wherein the modulation oscillator frequency comprises an intermediate oscillator frequency from the receiver.

8. (Original) The tracking generator as recited in claim 6 wherein the modulation oscillator frequency comprises an internal local oscillator frequency.

9. (Original) The tracking generator as recited in any of claims 1-6 wherein the generating means comprises:

means for pre-processing digital data to provide a baseband digital signal in response to control by the controller; and

means for converting the baseband digital signal to a baseband analog signal as the baseband signal.

10. (Original) The tracking generator as recited in claim 9 wherein the baseband signal comprises a complex vector baseband signal having an in-phase and a quadrature-phase component and the modulating means comprises:

a pair of mixers, each mixer having as inputs respectively one of the in-phase and quadrature-phase components and respectively an in-phase and a quadrature-phase frequency component of the modulation oscillator frequency; and

means for combining the outputs of the mixers to produce the modulation signal.

11. (Original) The tracking generator as recited in claim 10 wherein the in-phase and quadrature-phase frequency components are derived from an intermediate oscillator frequency from the receiver.

12. (Original) The tracking generator as recited in claim 9 wherein the baseband signal comprises a tone signal and the modulating means comprises a mixer for mixing the tone signal with the modulation oscillator frequency to produce the modulation signal.

13. (Original) The tracking generator as recited in claim 9 wherein the mixing means comprises an output mixer having as inputs the modulation signal and the local oscillator frequency to produce at an output the test signal.

14. (Currently Amended) A method of producing a test signal from a tracking generator within an RF instrument having a controller and a receiver comprising the steps of:

generating a baseband signal ~~under control of~~ from baseband data from the controller;
modulating the baseband signal with a modulation oscillator frequency to produce a modulation signal; and

mixing the modulation signal with a local oscillator signal from the receiver to produce the test signal having an output frequency that matches a measurement frequency for the receiver.

15. (Original) The method as recited in claim 14 further comprising the step of offsetting the output frequency from the measurement frequency.